

Appl. No. 10/750,755  
Amendment dated: February 11, 2005  
Reply to OA of: December 1, 2004

This listing of claims will replace all prior versions and listings of claims in the application.

**Listing of Claims:**

1(currently amended). A medical device made of a biocompatible titanium alloy composition having an improved castability ~~comprising~~ consisting essentially of:

- (a) about 0.01-5 wt% Bi based on the weight of the alloy composition;
- (b) at least one alloy element selected from the group consisting of Mo, Nb, Ta, Zr and Hf; and
- (c) the balance Ti.

2(original). The medical device as set forth in claim 1, wherein said alloy composition comprises 0.1-3 wt% Bi.

3(currently amended). ~~The medical device as set forth in claim 1, wherein said alloy composition further comprises~~ A medical device made of a biocompatible titanium alloy composition having an improved castability consisting essentially of:

- (a) about 0.01-5 wt% Bi based on the weight of the alloy composition;
- (b) at least one alloy element selected from the group consisting of Mo, Nb, Ta, Zr and Hf;
- (c) at least one eutectoid beta stabilizing element selected from the group consisting of Fe, Cr, Mn, Co, Ni, Cu, Ag, Au, Pd, Si, and Sn; and
- (d) the balance Ti.

4(original). The medical device as set forth in claim 1, wherein said titanium alloy composition is substantially free from V.

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5(original). The medical device as set forth in claim 1, wherein the titanium alloy composition is substantially free from Al.

6(original). The medical device as set forth in claim 2, wherein the titanium alloy composition consists essentially of Ti and Mo; Ti and Nb; Ti and Zr; Ti, Mo and Fe; Ti, Mo and Cr; Ti, Mo and Nb; Ti, Mo and Ta; Ti, Nb and Fe; Ti, Ta and Fe; Ti, Nb and Zr; Ti, Al and Nb; Ti, Mo, Zr and Fe; or Ti, Mo, Hf and Fe, in addition to Bi.

7(original). The medical device as set forth in claim 1 which is a dental casting.

8(original). The medical device as set forth in claim 1 which is a medical implant.

9(currently amended). A method for improving a castability of a titanium alloy ~~comprising~~ consisting essentially of at least one alloy element selected from the group consisting of Mo, Nb, Ta, Zr and Hf, said method comprising introducing about 0.01-5% Bi into said titanium alloy, based on the weight of Bi and said titanium alloy.

10(original). The method as set forth in claim 9, wherein 0.1-3 wt% Bi is introduced into said titanium alloy.

11(currently amended). ~~The method as set forth in claim 9, wherein said titanium alloy further comprises~~ A method for improving a castability of a titanium alloy consisting essentially of at least one alloy element selected from the group consisting of Mo, Nb, Ta, Zr and Hf and at least one eutectoid beta stabilizing element selected from the group consisting of Fe, Cr, Mn, Co, Ni, Cu, Ag, Au, Pd, Si and Sn, said method comprising introducing about 0.01-5% Bi into said titanium alloy, based on the weight of Bi and said titanium alloy.

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12(original). The method as set forth in claim 9, wherein the titanium alloy is substantially free from V.

13(original). The method as set forth in claim 9, wherein the titanium alloy is substantially free from Al.

14(original). The method as set forth in claim 10, wherein said titanium alloy consists essentially of Ti and Mo; Ti and Nb; Ti and Zr; Ti, Mo and Fe; Ti, Mo and Cr; Ti, Mo and Nb; Ti, Mo and Ta; Ti, Nb and Fe; Ti, Ta and Fe; Ti, Nb and Zr; Ti, Al and Nb; Ti, Mo, Zr and Fe; or Ti, Mo, Hf and Fe.

15(currently amended). A method of using a titanium alloy composition in making a medical device comprising casting a titanium alloy composition ~~comprising~~ consisting essentially of

- (a) about 0.01-5 wt% Bi based on the weight of the alloy composition;
- (b) at least one alloy element selected from the group consisting of Mo, Nb, Ta, Zr and Hf; and
- (c) the balance Ti.

16(original). The method as set forth in claim 15, wherein said alloy composition comprises 0.1-3 wt% Bi.

17(currently amended). ~~The method as set forth in claim 15, wherein said alloy composition comprises~~ A method of using a titanium alloy composition in making a medical device comprising casting a titanium alloy composition consisting essentially of

- (a) about 0.01-5 wt% Bi based on the weight of the alloy composition;
- (b) at least one alloy element selected from the group consisting of Mo, Nb, Ta, Zr and Hf;

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(c) at least one eutectoid beta stabilizing element selected from the group consisting of Fe, Cr, Mn, Co, Ni, Cu, Ag, Au, Pd, Si and Sn; and  
(c) the balance Ti.

18(original). The method as set forth in claim 15, wherein said titanium alloy composition is substantially free from V.

19(original). The method as set forth in claim 15, wherein the titanium alloy composition is substantially free from Al.

20(original). The method as set forth in claim 16, wherein the titanium alloy composition consists essentially of Ti and Mo; Ti and Nb; Ti and Zr; Ti, Mo and Fe; Ti, Mo and Cr; Ti, Mo and Nb; Ti, Mo and Ta; Ti, Nb and Fe; Ti, Ta and Fe; Ti, Nb and Zr; Ti, Al and Nb; Ti, Mo, Zr and Fe; or Ti, Mo, Hf and Fe, in addition to Bi.

21(original). The method as set forth in claim 15, wherein said medical device is a dental casting.

22(original). The method as set forth in claim 15, wherein said medical device is a medical implant.